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1. REPORT DATE (DD-MM-YYYY) May 2010		2. REPORT TYPE		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Research and Technology Organisation (NATO) BP 25, F-92201 Neuilly-sur-Seine Cedex, France				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Research and Technology Organisation (NATO) BP 25, F-92201 Neuilly-sur-Seine Cedex, France				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) RTO-EN-SET-157(2010)	
12. DISTRIBUTION / AVAILABILITY STATEMENT DISTRIBUTION STATEMENT A. Approved for public release					
13. SUPPLEMENTARY NOTES Supporting documents are attached to the report as separate files (PDF, HTM).					
14. ABSTRACT The objective of this Lecture Series is to provide an introduction into modern distributed sensor networks and sophisticated modern tracking and data fusion technologies lecture by leading experts in this area and to discuss their pros & cons. This discussion will be based on advanced applications in various fields relevant to NATO's mission, such as covert surveillance by distributed active or passive radar/sonar networks, security assistance systems for NATO DAT, or high-precision and reliable multisensor fusion products for producing better situation pictures in NATO's ISTAR systems, for instance. The LS presents the state-of-the-art in data fusion technology and its applications, and thereby increases awareness of its value to the NATO scientific and engineering communities. Moreover, the LS will review current developments in this area.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 3	19a. NAME OF RESPONSIBLE PERSON
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U			19b. TELEPHONE NUMBER (include area code)



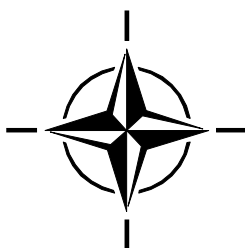
RTO EDUCATIONAL NOTES

EN-SET-157(2010)

Multisensor Fusion: Advanced Methodology and Applications

(Fusion multicapteur : Méthodologie évoluée et Applications)

The material in this publication was assembled to support a Lecture Series under the sponsorship of the Sensors and Electronics Technology Panel (SET) presented on 12-13 April 2010 in Wachtberg, Germany; on 15-16 April 2010 in La Spezia, Italy; on 19-20 April 2010 in Porto, Portugal; on 10-11 May 2010 in Reston, VA, USA; and on 13-14 May 2010 in Halifax, Canada.



Published May 2010

The Research and Technology Organisation (RTO) of NATO

RTO is the single focus in NATO for Defence Research and Technology activities. Its mission is to conduct and promote co-operative research and information exchange. The objective is to support the development and effective use of national defence research and technology and to meet the military needs of the Alliance, to maintain a technological lead, and to provide advice to NATO and national decision makers. The RTO performs its mission with the support of an extensive network of national experts. It also ensures effective co-ordination with other NATO bodies involved in R&T activities.

RTO reports both to the Military Committee of NATO and to the Conference of National Armament Directors. It comprises a Research and Technology Board (RTB) as the highest level of national representation and the Research and Technology Agency (RTA), a dedicated staff with its headquarters in Neuilly, near Paris, France. In order to facilitate contacts with the military users and other NATO activities, a small part of the RTA staff is located in NATO Headquarters in Brussels. The Brussels staff also co-ordinates RTO's co-operation with nations in Middle and Eastern Europe, to which RTO attaches particular importance especially as working together in the field of research is one of the more promising areas of co-operation.

The total spectrum of R&T activities is covered by the following 7 bodies:

- AVT Applied Vehicle Technology Panel
- HFM Human Factors and Medicine Panel
- IST Information Systems Technology Panel
- NMSG NATO Modelling and Simulation Group
- SAS System Analysis and Studies Panel
- SCI Systems Concepts and Integration Panel
- SET Sensors and Electronics Technology Panel

These bodies are made up of national representatives as well as generally recognised 'world class' scientists. They also provide a communication link to military users and other NATO bodies. RTO's scientific and technological work is carried out by Technical Teams, created for specific activities and with a specific duration. Such Technical Teams can organise workshops, symposia, field trials, lecture series and training courses. An important function of these Technical Teams is to ensure the continuity of the expert networks.

RTO builds upon earlier co-operation in defence research and technology as set-up under the Advisory Group for Aerospace Research and Development (AGARD) and the Defence Research Group (DRG). AGARD and the DRG share common roots in that they were both established at the initiative of Dr Theodore von Kármán, a leading aerospace scientist, who early on recognised the importance of scientific support for the Allied Armed Forces. RTO is capitalising on these common roots in order to provide the Alliance and the NATO nations with a strong scientific and technological basis that will guarantee a solid base for the future.

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Published May 2010

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ISBN 978-92-837-0114-9

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